

Title (en)

Carbon dioxide concentration measuring device, method of measuring carbon dioxide concentration and burning appliance therefor

Title (de)

Kohlendioxyd-Konzentration Meßgerät, Verfahren zum Messen der Kohlendioxydkonzentration und Brenner dafür

Title (fr)

Appareil de mesure de la concentration en anhydride carbonique, méthode pour mesurer la concentration en anhydride carbonique et brûleur à cet usage

Publication

**EP 1603172 A1 20051207 (EN)**

Application

**EP 05011645 A 20050530**

Priority

JP 2004162149 A 20040531

Abstract (en)

A carbon dioxide concentration measuring device or a method of measuring carbon dioxide concentration which can measure the carbon dioxide concentration in outside air with high accuracy is provided. A carbon dioxide sensor mounted in a heating appliance includes a generator which generates electric power through the use of combustion heat, more specifically through directly converting the heat energy of combustion heat from a flame for heating into electrical energy. The carbon dioxide sensor operates through the use of electrical energy generated by the generator, so unlike a carbon dioxide sensor in a related art which operates through the use of a consumable power source such as a dry cell, as long as electrical energy is generated by the generator, the emission intensity of infrared rays does not change with time, or a computing process by a control circuit is not impeded, so an error due to a change in the emission intensity of infrared rays or the impediment to the computing process by the control circuit in the result of measurement of carbon dioxide concentration is impeded. <IMAGE>

IPC 1-7

**H01L 35/32; H01L 35/08; G01N 21/72; F24C 3/12; F24C 5/16**

IPC 8 full level

**F23N 5/24 (2006.01); F24C 3/12 (2006.01); F24C 5/16 (2006.01); G01N 21/35 (2014.01); G01N 21/3504 (2014.01); G01N 21/72 (2006.01); H01L 35/08 (2006.01); H01L 35/32 (2006.01)**

CPC (source: EP US)

**F24C 5/16 (2013.01 - EP US); G01N 21/3504 (2013.01 - EP US); G01N 21/72 (2013.01 - EP US)**

Citation (search report)

- [A] WO 2004013600 A2 20040212 - R L AGEBOIS SA [FR], et al
- [A] US 5165883 A 19921124 - VAN BEMMEL JAN C [NL]
- [A] US 5931655 A 19990803 - MAHER JR CHARLES A [US]
- [A] US 4477686 A 19841016 - NAKAJIMA TAKASHI [JP], et al
- [A] GB 2116316 A 19830921 - HORIBA LTD
- [A] PATENT ABSTRACTS OF JAPAN vol. 1995, no. 03 28 April 1995 (1995-04-28)

Cited by

US2017363327A1; US2017363326A1; WO2013060096A1; WO2017218797A1; WO2017218804A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

**EP 1603172 A1 20051207; CN 1704753 A 20051207; JP 2005345146 A 20051215; US 2005263705 A1 20051201**

DOCDB simple family (application)

**EP 05011645 A 20050530; CN 200510075404 A 20050531; JP 2004162149 A 20040531; US 13733505 A 20050526**